

## Challenges in Siting Transmission A Developer's Perspective

J.C. van 't Hof



## Disclaimer

This presentation contains forward-looking information that involves known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information. For this purpose, any statements that are contained herein that are not statements of historical fact may be deemed to be forward-looking information. Without limiting the foregoing, the words "believes," "anticipates," "plans," "intends," "will," "should," "expects," "projects," and similar expressions are intended to identify forward-looking information. These risks include, but are not limited to, those associated with the regulatory approval process, competition, the ability to generate revenue and exploit operating margins, the reorganization of the electrical industry, capital resources, the use of certain technologies and materials, annual impairment tests, labour relations, insurance, damage from weather and other disasters, operating and maintenance risks and environmental risks. The forward-looking statements are made as of the date hereof, and the Company undertakes no obligation to update or revise any forward-looking information.

## Presentation Outline and Agenda

Part 1: MATL progress

Part 2: Why Merchant

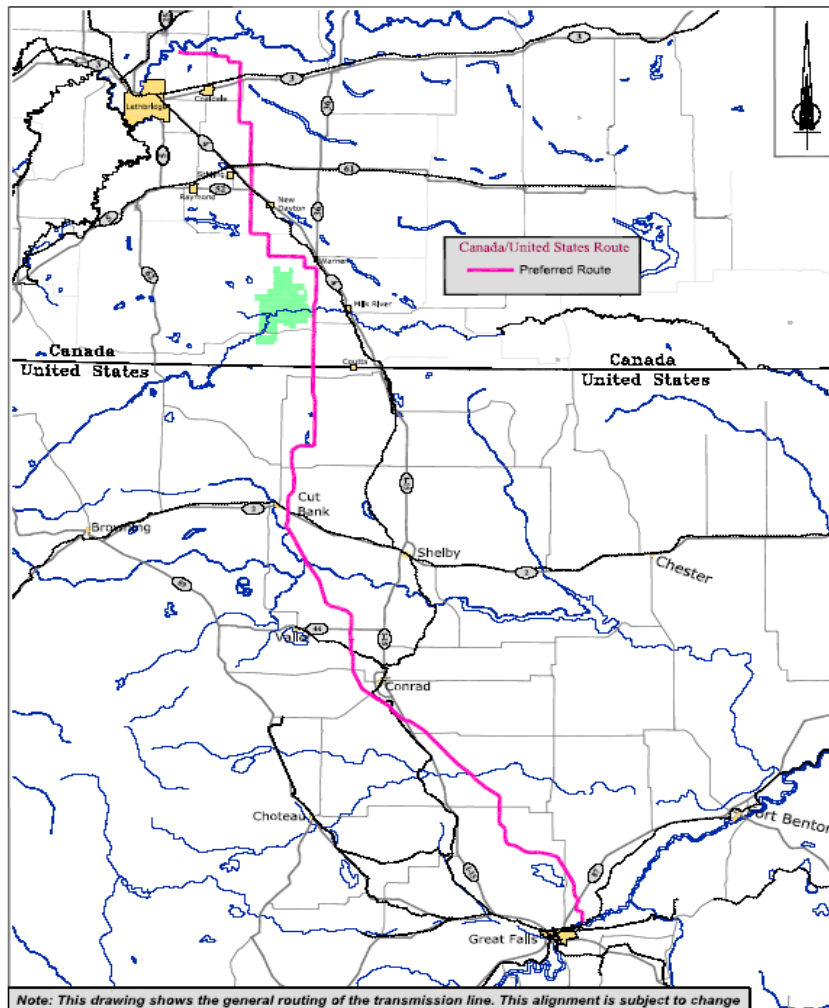
Part 3: The Developer challenge

Part 4: The Regulatory challenge

Part 5: The Legal challenge

Part 6: Lessons learned

### Proposed Route



- Distance: 337 KM
- Theoretical transfer Capacity of 600 MWs each way (real limit likely 500 MWs)
- Sold 300MWs each way to date, since path rating limits to 300 MWs
  - All shippers are renewable
- Currently finishing permitting
- Majority of transmission line rights-of-way assembled
- Preconstruction engineering completed
- Route optimization and selection complete
- Merchant line - where risk and costs are allocated to investors and users, not society through a rate base recovery

## Part 1: MATL Progress

	Completed Steps:	Next Steps:
Regulatory Approvals	<ul style="list-style-type: none"> <li>● MDEQ, DOE final EIS due, with RoD</li> </ul>	<ul style="list-style-type: none"> <li>○ Awaiting EIS issuance and RoD</li> </ul>
Rights of Way	<ul style="list-style-type: none"> <li>● Alberta ADR process almost completed</li> <li>● Montana new process in place</li> </ul>	<ul style="list-style-type: none"> <li>○ Awaiting regulatory approval for final routing</li> </ul>
Grid Interconnection	<ul style="list-style-type: none"> <li>● Member of WECC</li> <li>● Interconnection agreements completed</li> <li>● All agreements with Altalink, NEW, C.O.A. executed,</li> <li>● RW Beck (IE has affirmed)</li> </ul>	<ul style="list-style-type: none"> <li>○ None</li> </ul>
Construction	<ul style="list-style-type: none"> <li>● Phase Shifting Transformer completed</li> <li>● SNC engineering substantially advanced</li> <li>● All EPC agreements completed</li> <li>● Procurement process completed</li> </ul>	<ul style="list-style-type: none"> <li>○ Issue Notice to Proceed</li> </ul>
O&M Agreements	<ul style="list-style-type: none"> <li>● Agreement executed for Canada and U.S.</li> </ul>	<ul style="list-style-type: none"> <li>○ None</li> </ul>
Debt Project Financing	<ul style="list-style-type: none"> <li>● \$55 M in place</li> <li>● Senior Debt being finalized</li> </ul>	<ul style="list-style-type: none"> <li>○ Need permits</li> <li>○ Finalizing terms and conditions</li> </ul>
Revenue Contracts	<ul style="list-style-type: none"> <li>● 100% of capacity now under contract<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>○ None</li> </ul>

**Bottom line: NTP when last permits received**

### MATL's Siting Requirements to be met

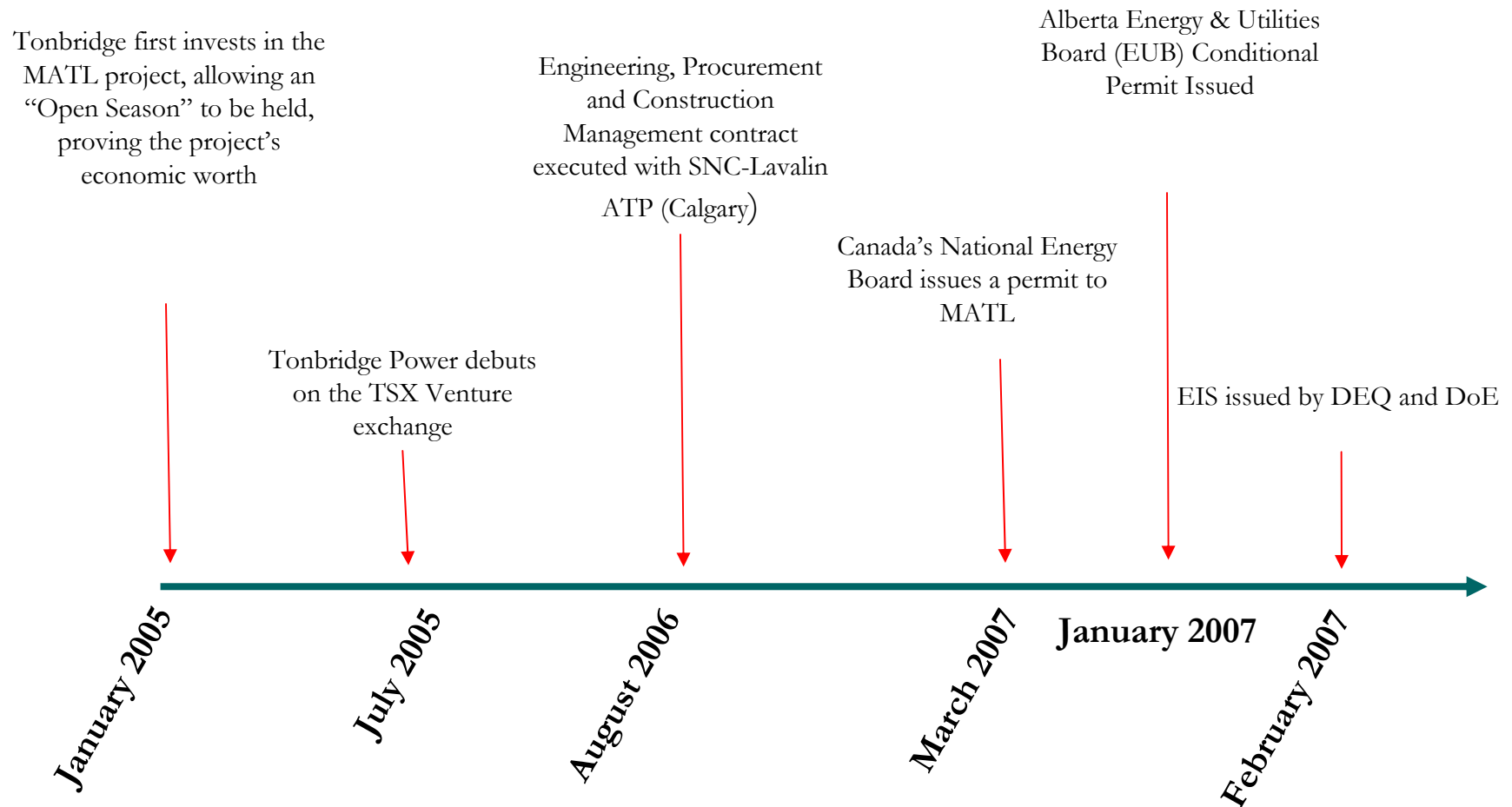
#### Canada

- o AEUB and NEB - Interplay of federal and provincial legislation
- o 2 km corridor approved federally,
- o Specific route within corridor left to provincial regulator
- o EIS versus EA, hearings versus comment periods
- o Processes very different

#### United States

- o MDEQ and DoE,
- o Differing processes, issues and concerns (connected actions and cumulative effects).
- o "Connected" used to broaden scope, not manage impact
- o Two EIS, one EA, two routes proposed
- o Third route proposed by DEQ in Draft EIS

# 1. MATL Progress







## 2. The Merchant Model

- Highly regulated - the same as any other line, except revenue assurance, but without any guaranteed return on investment or recovery of costs
- Wholly independent of and impartial between shippers - all capacity sales carried out on OASIS
- Financed on basis of secure revenues - making spot market arbitrage largely irrelevant from a development perspective
- Although merchants may be 'natural seams' players, the backlog in transmission is opening up many radial opportunities also





## 2. The Merchant Model - Why??

### Argument 1: It Can be Developed Within a Commercial Period

Timelines for delivery of new regulated transmission

- Path 15 California - took 15 years
- Bonneville Power Authority - quoting at least 15 years
- Ontario Hydro - quoting 10 years, no lines in 20 years
- Calgary-Edmonton 500 kV - 1981, *and back to square one*
- Manitoba-Ontario intertie - 1985, *but not started*

Private Sector Delivery Timelines

- Montana Alberta Tie Limited -3 years, first international merchant line

## 2. The Merchant Model - Why??

### Argument 2: It Allocates Costs and Risks to Those Who Benefit

#### The Traditional Model

The ratepayer (and/or tax payer) takes all of these risks and the process takes years to establish “need”

Incentives abound to develop the project slowly and expensively. Flexibility to explore new values once approval has been given are minimal

*Financing risks*  
*Environmental risk*  
*Regulatory risk*  
*Construction risk*  
*Technology risk*  
*Cost risk*  
*Availability risk*  
*Revenue risk*  
*Operating risk*  
*etc.*

#### The Merchant Model

The risks are born by *investors and shippers*, and avoids the universal ‘need’ threshold. The ratepayer and tax payer bear only the risk that transmission will not be built. Under a liberalized market, this should apply only to uneconomic projects.





## 2. The Merchant Model

### Where it works

- o Green and renewable generation needing fast connection, obviating congested queue issues
- o Shippers who require time assurance to execute their projects
- o Utilities who require JVs to bring projects on line faster

### Where it doesn't

- o System reliability projects
- o System upgrade projects
- o Capacity enhancements

### Bottom Line

- o Regional needs are significant and diverse
- o Renewables are primary new resource
- o The merchant and utility models are complementary

## Part 3. Developer Challenge

### Cost and efficiency - significant concern for the market and developers

- Shortest route - extra miles are a dead cost and *not* recoverable
- Straightest route - dead ends cost 10 X more
- Avoidance of dead ends
- Least line losses
- Overbuilding capacity now
- Permitting embedded inefficiency in utilization
- Results in efficient energy prices to consumers

Need to optimize against competing interests of

*Cost of project*

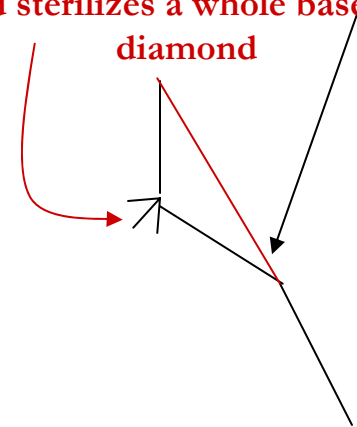
*VS*

*impact on land and landowners*

*VS*

*efficiency and least cost energy prices to consumers*

Each 5 degree turn needs a concrete bed to take load or strain, often needs guy wires and sterilizes a whole baseball diamond



### Landowner relations imperatives

#### Cultural understanding

- T Line is going to be a perpetual neighbour
- Act like a citizen of the community
- Often land is a defining element for people (generations of usage)

#### Technical Understanding

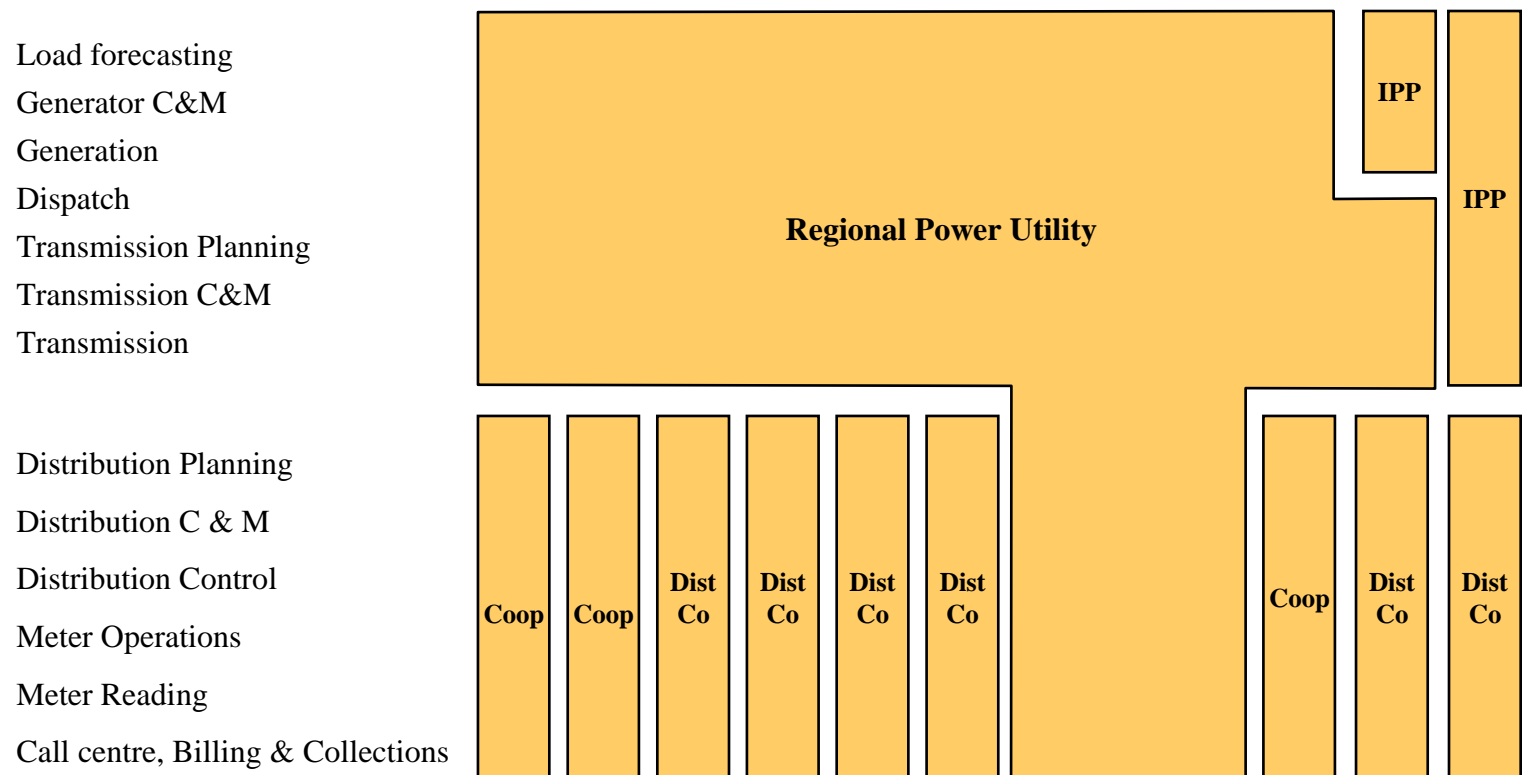
- Cultivated vs irrigated - conductor and pole clearances requirements
- Forest - right of way clearance impacts on habitat and flora and fauna
- Diagonal crossings - farm around impacts vs right of way purchases
- Wetlands need to be avoided
- Bird habitat - leks, raptor facilitation

### Dealing with the 'Cost'

- Landowner Costs
  - Loss of strip of land
  - Interruption of farming and other activities
  - Possible loss of property value
  - Aesthetic destruction of view
- Societal Cost
  - Allocating higher energy prices from new (clean) generation sources and new T lines, competing with old coal using old transmission lines
  - Tax credits to socialize the cost of new transmission, like wind and other credits??

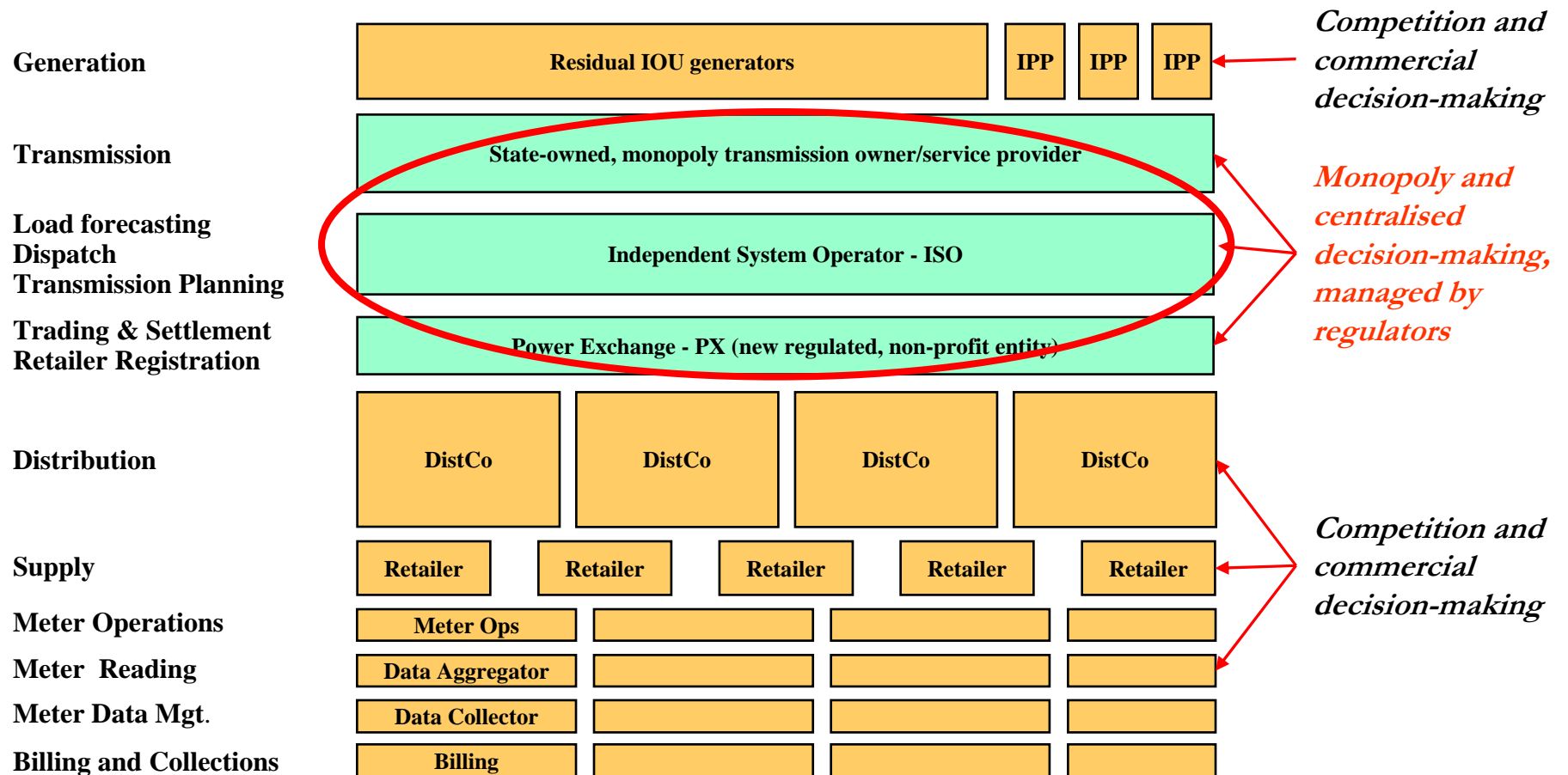
## 4. Regulatory challenge

### The Traditional Structure - An Integrated Utility with Marginal Market Driven Activity





## 4. Regulatory challenge



*Incongruence in timelines and pressures of industry participants*



## 4. Regulatory Challenge

### Regulatory Protocols - Our Collective Experience

- Established in statute (NEPA, MFSa, AHA) for the old industry design where delay costs internalized and paid by users, not the new industry structure when market forces drive investment decisions
- Market considerations, timelines, and requirements not generally relevant to regulators, yet industry structure places reliance placed on the market to produce generation investment “on time”
- Specific standards set in regulation but “expanded” to meet landowner issues
- EIS and EA not firm standards or hurdles (same document was *one* of each to two regulators)
- Siting a function of least impact to landowners, less the environmental/scientific impact
- Siting decisions made on a micro basis, but without input from engineers on geotech, compaction, soil conditions, location of pipelines and parallel induction, dead ends, etc.. Landowner resistance was primary criteria.
- Double standard for permissible conduct - regulators were tolerant of landowners gaming of the system, but intolerant of any missteps by applicant (‘inaccurate’ claims of non receipt respected, failure to lodge on web by regulator caused five month delay)



## 4. Regulatory challenge

### New model needed?

Some thoughts .....

- If we are to get off foreign oil, (eliminate transfer of wealth to oil producers?), a sense of national urgency needs to set in, similar to WWII to approve appropriate projects. Alberta just removed the need for an EIS on transmission, since they lost confidence in the existing process, and landowner gaming of the appeal process. Overreaction?
- Securities regulators approve prospectuses in days, and issue final receipts in hours of filing. We are investing our pension money in this process, surely no less an important task than protecting the environment.
- Stop spending time and money on old “warhorse” issues like re-examining EMF, impacts on GPS/pacemakers/cell phones etc., and focus on real issues.
- Society’s needs cannot be met by allowing every individual landowner’s issues to be a project veto
- Delays also means a cost to society and these need to be factored in. Not making a decision means we are making one to keep the status quo.
- Regulation needs to become measurable, accountable and transparent.



## 5. Legal challenge

### Appeal risk

- Appeals permitted on error in law, error in process, and presumption of bias, but explicitly cedes expert nature of issue at hand to the regulatory body
- Makes regulators jumpy, and is a major issue driving behaviour and regulatory decision making. Leadership in the process limited due to this.
- Permits landowners to game the system by introducing litigation chill with no countervailing pressures.
- Appeal basis needs to be strictly applied, but isn't in appellate court
- Not followed by applicants - allegations in appeals included
  - permit should be denied because it would export Alberta coal generated power,
  - Regulator not permitted to issues conditional permit (expressly permitted by law)
  - Alleged federal law trumped by provincial law (Constitutional Law 101?)
  - \$200,000 spent in legals, recovery set at \$90 an hour
- Legislative change regarding appeal process?



## 6. Some insights into Siting

### A refreshed cultural overlay is needed

- Since the DoE says we are congested in the West, can we accept the obvious, that the transmission delivery system is not working as intended and needs an overhaul??
- 15 year delivery cycles for new transmission are just unacceptable in the context of a competitive industry design, and reliance on the market to deliver energy at affordable prices *at times needed*
- Regulators should owe an equal duty to society *and* to the proponent, not just the landowner
- Regulatory activity has to become measurable and accountable
- Landowners need something, property tax rebate, zero taxation on easement and pole payments, to mitigate and socialize the cost to them
- A sense of national urgency needs to be instilled
- This requires a move to the 'Hegelian middle' (thesis, antithesis and synthesis) from the current antagonistic process
- Governor Schweitzer, Congressional Delegation and Legislature showing great leadership in implementing "better way" in MT.



## Contact Details

Johan van 't Hof, Chief Executive Officer

- Tonbridge Power Inc.
- 20 Bay St., Suite 1100, Toronto, M5J 2N8,
  - Off: (416) 850 2150
  - Cell: (647) 202 9985
- [jvanthof@tonbridgecorp.com](mailto:jvanthof@tonbridgecorp.com)
- Website: [www.tonbridgepower.com](http://www.tonbridgepower.com)